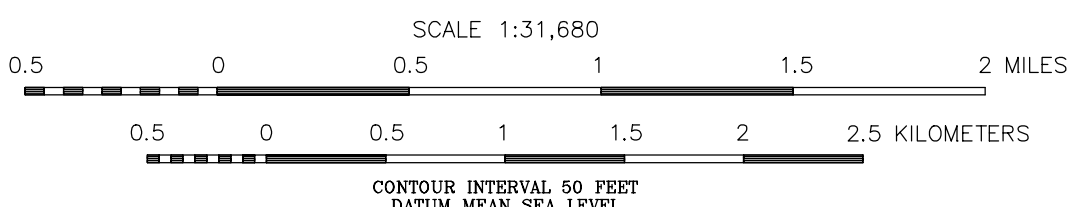
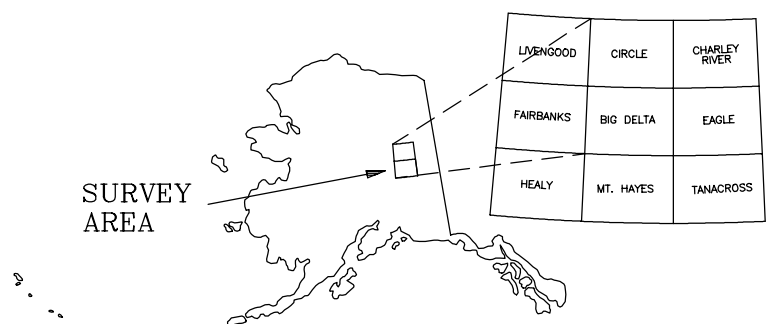


Base from U.S. Geological Survey Big Delta B-4, 1975, C-4, 1972, Quadrangle, Alaska.



TOTAL MAGNETIC FIELD AND DETAILED ELECTROMAGNETIC ANOMALIES OF THE EAST RICHARDSON AREA, FAIRBANKS MINING DISTRICT, INTERIOR ALASKA

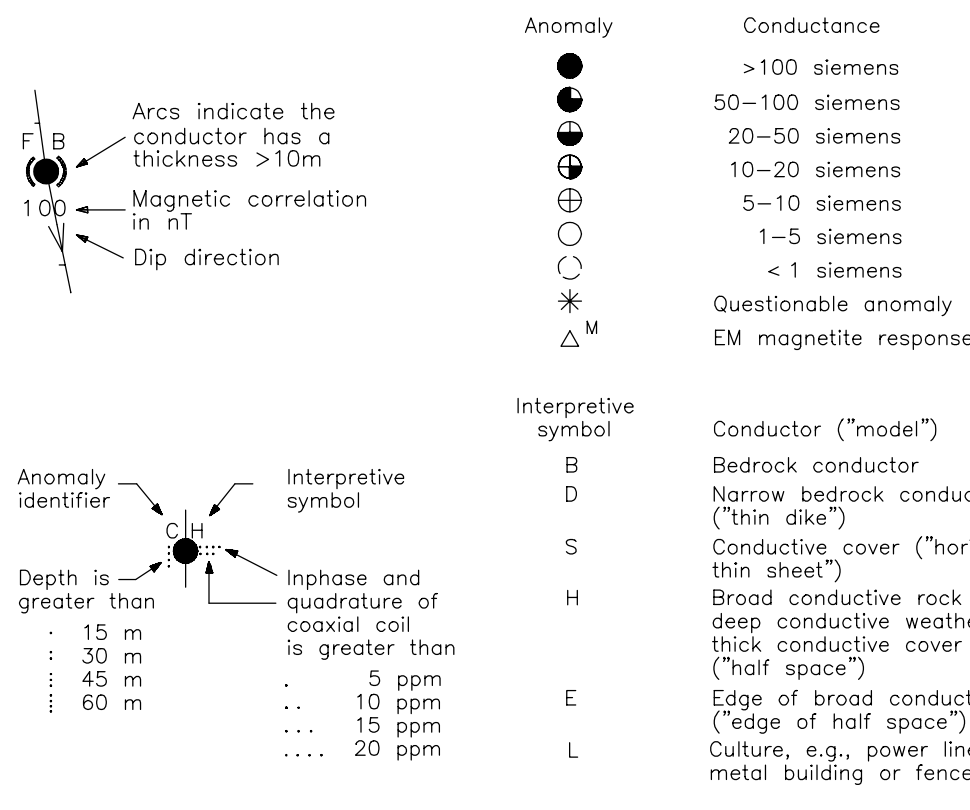
PARTS of BIG DELTA B-4 and C-4 QUADRANGLES
by
Laurel E. Burns, Fugro Airborne Surveys Corp. and Stevens Exploration Management Corp.
2006



DESCRIPTIVE NOTES

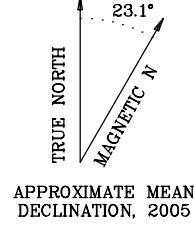
The geophysical data were acquired with a DIGEM™ Electromagnetic (EM) system and a Sirtex cesium magnetometer. The EM and magnetic sensors were flown at a height of 100 feet. In addition the survey recorded data from a radar altimeter, GPS navigation system, 50/60 Hz monitors and video cameras. Flights were performed with an AS350B-2 Squirrel helicopter at a mean terrain clearance of 200 feet along N-S (or) survey flight lines with a spacing of a quarter of a mile. The lines were flown perpendicular to the flight lines at intervals of approximately 3 miles. An Ashtech Q224 NAVSTAR / GLONASS Global Positioning System was used for navigation. The helicopter position was derived every 0.5 seconds using post-flight differential positioning to a relative accuracy of better than 5 m. Flight path positions were projected onto the Clarke 1866 (UTM zone 18) spheroid, 1927 North American datum using a central meridian (CM) of 147°, a north constant of 0 and an east constant of 500,000. Positional accuracy of the presented data is better than 10 m, with respect to the UTM grid.

ELECTROMAGNETIC ANOMALIES



ELECTROMAGNETICS

To determine the location of EM anomalies or their boundaries, the DIGEM™ EM system measures response and quadrature components at five frequencies: two vertical co-planar coils operated at 1000 and 5500 Hz, while three horizontal coplanar coils operated at 900, 2200, and 56,000 Hz. EM data were sampled at 0.1 second intervals. The EM system responds to bedrock conductors, conductive overburden, and cultural sources. The type of conductor is indicated on the interpretive map by the interpretive symbol attached to each EM anomaly. Determination of the type of conductor is based on EM anomaly shapes of the co-planar and coplanar-coil responses, together with conductor and magnetic patterns and topography. The power line monitor and the flight track video were examined to locate cultural sources.

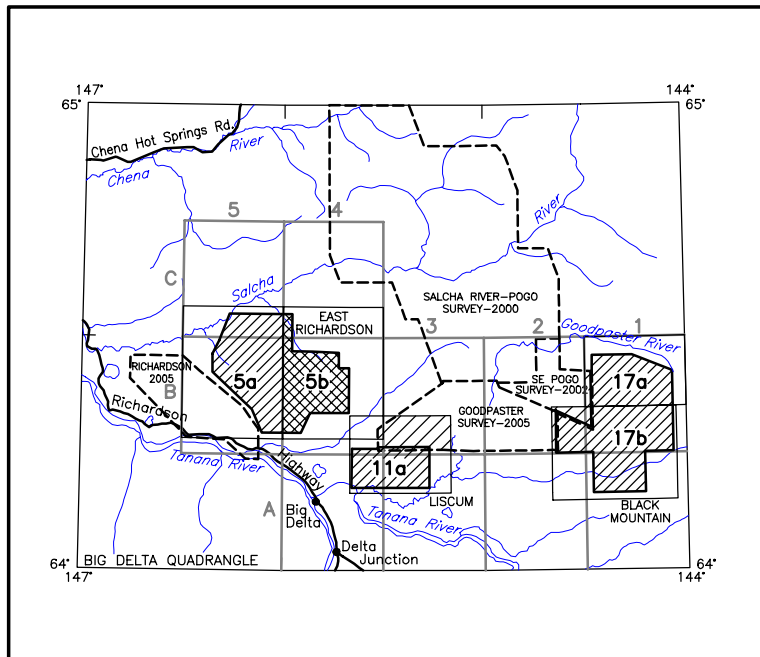


TOTAL MAGNETIC FIELD

The magnetic total field contours were produced using digitally recorded data from a Sirtex cesium CS2 magnetometer, with a sampling interval of 0.1 seconds. The magnetic data were (1) corrected for diurnal variations by subtraction of the digitally recorded base station magnetic data, (2) adjusted for regional variations (or IGRF gradient, 2005, updated to October 2005) using ellipsoid adjusted IGRF, (3) leveled to the tie line data, and (4) interpolated onto a regular 80 m grid using a modified Akima (1970) technique.

Alkms, R. 1970. A new method of interpolation and smooth curve fitting based on local properties. *Journal of the Association of Computing Machinery*, v. 17, no. 4, p. 588-602.

LOCATION INDEX FOR SCALE 1:31,680



SURVEY HISTORY

This map has been compiled and drawn under contract between the State of Alaska, Department of Natural Resources, Division of Geological & Geophysical Surveys (DGGS), and Stevens Exploration Management Corp. Airborne geophysical data for the area were acquired and processed by Fugro Airborne Surveys Corp. in 2005. This map and other products from this survey are available by mail order in person from DGGS, 3354 College Road, Fairbanks, Alaska, 99709-3707. Published maps are also available for viewing or downloading as Adobe Acrobat Files (.pdf) on our Web site (<http://www.dggs.dnr.state.ak.us/pubs/>).